

RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: 10/087,573B
Source: 1Fu16
Date Processed by STIC: 2/13/06

ENTERED



IFW16

RAW SEQUENCE LISTING

DATE: 02/13/2006

PATENT APPLICATION: US/10/087,573B

TIME: 10:56:05

Input Set : E:\Substitute Seq Listing I- 2001.004 US.txt
Output Set: N:\CRF4\02132006\J087573B.raw

3 <110> APPLICANT: Schetters, Theodorus P. M.
4 Carcy, Bernard P. D.
5 Drakulovski, Pascal R.
6 Gorenflo, Andre F.
8 <120> TITLE OF INVENTION: Babesia canis vaccine
10 <130> FILE REFERENCE: I-2001.004 US
12 <140> CURRENT APPLICATION NUMBER: 10/087,573B
13 <141> CURRENT FILING DATE: 2002-02-28
15 <150> PRIOR APPLICATION NUMBER: EP 01200816.5
15 <151> PRIOR FILING DATE: 2001-03-06
18 <160> NUMBER OF SEQ ID NOS: 17
20 <210> SEQ ID NO: 1
21 <211> LENGTH: 1135
22 <212> TYPE: DNA
23 <213> ORGANISM: Babesia canis
25 <220> FEATURE:
26 <221> NAME/KEY: CDS
27 <222> LOCATION: (75)..(500)
29 <400> SEQUENCE: 1
30 gaattcggca cgagccctgc tatactgtgc tttgcaacta actccatcg aataatttaa 60
32 tataataata aagg atg gag tcg aca tca aca acg acc aac ttt gtt gcc 110
33 Met Glu Ser Thr Ser Thr Thr Thr Asn Phe Val Ala
34 1 5 10
36 gag aac cgt ccc acc ttt ggt gag acg ttt gat gtg atg agg gaa gct 158
37 Glu Asn Arg Pro Thr Phe Gly Glu Thr Phe Asp Val Met Arg Glu Ala
38 15 20 25
40 ttg ctt cgt gta aag tcc tct gaa cgc ttg gca atg ctc aga gcg ctt 206
41 Leu Leu Arg Val Lys Ser Ser Glu Arg Leu Ala Met Leu Arg Ala Leu
42 30 35 40
44 gca gga atg tgc ggt cac cgc gtc ctt cct ggc act ggt gct tct gcg 254
45 Ala Gly Met Cys Gly His Arg Val Leu Pro Gly Thr Gly Ala Ser Ala
46 45 50 55 60
48 ata gcg gca acg gta acc cca aag ggg gct tcg atg aag ctt aaa cca 302
49 Ile Ala Ala Thr Val Thr Pro Lys Gly Ala Ser Met Lys Leu Lys Pro
50 65 70 75
52 ccg cgt ccg cag tca acg aag tct ccg gag ctc agg gag ctg tca cgg 350
53 Pro Arg Pro Gln Ser Thr Lys Ser Pro Glu Leu Arg Glu Leu Ser Arg
54 80 85 90
56 aag att cgc gaa atg aat aag act ata agt cag gaa tca gct cgg gta 398
57 Lys Ile Arg Glu Met Asn Lys Thr Ile Ser Gln Glu Ser Ala Arg Val
58 95 100 105
60 aac cac cgg ttg ccg gaa ggc cac cct ctc tta gag aag cgg gca gaa 446
61 Asn His Arg Leu Pro Glu Gly His Pro Leu Leu Glu Lys Arg Ala Glu

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62      110          115          120
64 tat ttt cgt cac ctt aga tct ctt aag agc caa gga gtc aat aga ctc  494
65 Tyr Phe Arg His Leu Arg Ser Leu Lys Ser Gln Gly Val Asn Arg Leu
66 125          130          135          140
68 atc taa gaaggcacta cgtaggtacc gtgccttat gaggaatacg aaccgactag  550
69 Ile
71 tgacacaatag acgaccagg ttaccaaagg tagagcctga ctctaatcta ccattcggcc 610
73 agcgacggag tcgcgtgaca aegtggaaatc ttagaccacg ccggacgggt tatccgtcaa 670
75 atggtaacttt ggcagttacg gaactcctga tctcgattta tagatcaaac ttctacacct 730
77 tgaagggttgtt cgaggaaggg agatgtacgt gctcaaacac ccataaggag caagcttgc 790
79 tactcctatac cggttacacc cagctataatc gtgcactgca ctcagttgga aggtctgtat 850
81 tcgtagaata ctgcaaaaacc aggatatgcg tcgaggcacg cctcaccgga ctacgtccga 910
83 gggtgaccctt aacgggctgc tgaacttaggt tcagccagcg cttccctgtga gtatgtcatt 970
85 ccgggtccctt cggggccccgg gccagttcg actgggttag gtttgcctta ctagagtaact 1030
87 tgcgacgccc aagcgccctcc gttcaaaaaga acgcgcaagc cctagcagag aaatgcgagg 1090
89 gcatgactct tcgagtcaaa aaaaaaaaaaaaaaa aaaaaaaaaac tcgag 1135
92 <210> SEQ ID NO: 2
93 <211> LENGTH: 141
94 <212> TYPE: PRT
95 <213> ORGANISM: Babesia canis
97 <400> SEQUENCE: 2
98 Met Glu Ser Thr Ser Thr Thr Asn Phe Val Ala Glu Asn Arg Pro
99   1           5           10          15
101 Thr Phe Gly Glu Thr Phe Asp Val Met Arg Glu Ala Leu Leu Arg Val
102          20          25          30
104 Lys Ser Ser Glu Arg Leu Ala Met Leu Arg Ala Leu Ala Gly Met Cys
105          35          40          45
107 Gly His Arg Val Leu Pro Gly Thr Gly Ala Ser Ala Ile Ala Ala Thr
108          50          55          60
110 Val Thr Pro Lys Gly Ala Ser Met Lys Leu Lys Pro Pro Arg Pro Gln
111          65          70          75          80
113 Ser Thr Lys Ser Pro Glu Leu Arg Glu Leu Ser Arg Lys Ile Arg Glu
114          85          90          95
116 Met Asn Lys Thr Ile Ser Gln Glu Ser Ala Arg Val Asn His Arg Leu
117          100         105         110
119 Pro Glu Gly His Pro Leu Leu Glu Lys Arg Ala Glu Tyr Phe Arg His
120          115         120         125
122 Leu Arg Ser Leu Lys Ser Gln Gly Val Asn Arg Leu Ile
123          130         135         140
127 <210> SEQ ID NO: 3
128 <211> LENGTH: 1134
129 <212> TYPE: DNA
130 <213> ORGANISM: Babesia canis
132 <220> FEATURE:
133 <221> NAME/KEY: CDS
134 <222> LOCATION: (75)..(929)
136 <400> SEQUENCE: 3
137 gaattcggca cgagccctgc tatactgtgc tttgcaacta actccatcgt aataattaa 60
139 tataataata aagg atg gag tcg aca tca aca acg acc aac ttt gtt gcc  110

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Input Set : E:\Substitute Seq Listing I- 2001.004 US.txt
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140	Met	Glu	Ser	Thr	Ser	Thr	Thr	Asn	Phe	Val	Ala						
141	1				5					10							
143	gag	aac	cgt	ccc	acc	ttt	ggg	gag	acg	ttt	gat	gtg	atg	agg	gaa	gct	158
144	Glu	Asn	Arg	Pro	Thr	Phe	Gly	Glu	Thr	Phe	Asp	Val	Met	Arg	Glu	Ala	
145	15				20					25							
147	ttg	ctt	cgt	gta	aag	tcc	tct	gaa	cgc	ttg	gca	atg	ctc	aga	gcg	ctt	206
148	Leu	Leu	Arg	Val	Lys	Ser	Ser	Glu	Arg	Leu	Ala	Met	Leu	Arg	Ala	Leu	
149	30				35					40							
151	gca	gga	atg	tgc	ggg	cac	cgc	gtc	ctt	cct	ggc	act	ggg	gct	tct	gcg	254
152	Ala	Gly	Met	Cys	Gly	His	Arg	Val	Leu	Pro	Gly	Thr	Gly	Ala	Ser	Ala	
153	45				50					55				60			
155	ata	gcg	gca	acg	gta	acc	cca	aag	ggg	gct	tcg	atg	aag	ctt	aaa	cca	302
156	Ile	Ala	Ala	Thr	Val	Thr	Pro	Lys	Gly	Ala	Ser	Met	Lys	Leu	Lys	Pro	
157										65		70		75			
159	ccg	cgt	ccg	cag	tca	acg	aag	tct	ccg	gag	ctc	agg	gag	ctg	tca	cgg	350
160	Pro	Arg	Pro	Gln	Ser	Thr	Lys	Ser	Pro	Glu	Leu	Arg	Glu	Leu	Ser	Arg	
161										80		85		90			
163	aag	att	cgc	gaa	atg	aat	aag	act	ata	agt	cag	gaa	tca	gct	cgg	gta	398
164	Lys	Ile	Arg	Glu	Met	Asn	Lys	Thr	Ile	Ser	Gln	Glu	Ser	Ala	Arg	Vai	
165										95		100		105			
167	aac	cac	ccg	ttg	ccg	gaa	ggc	cac	cct	ctc	tta	gag	aag	cgg	gca	gaa	446
168	Asn	His	Arg	Leu	Pro	Glu	Gly	His	Pro	Leu	Leu	Glu	Lys	Arg	Ala	Glu	
169										110		115		120			
171	tat	ttc	gtc	acc	tta	gat	ctc	tta	aga	gcc	aag	gag	tca	ata	gac	tca	494
172	Tyr	Phe	Val	Thr	Leu	Asp	Leu	Leu	Arg	Ala	Lys	Glu	Ser	Ile	Asp	Ser	
173										125		130		135		140	
175	tct	aag	aag	gca	cta	cgt	agg	tac	cgt	gcc	tct	atg	agg	aat	acg	aac	542
176	Ser	Lys	Lys	Ala	Leu	Arg	Arg	Tyr	Arg	Ala	Ser	Met	Arg	Asn	Thr	Asn	
177										145		150		155			
179	cga	cta	gtg	cac	aat	aga	cga	cca	gtt	cta	cca	aag	gta	gag	cct	gac	590
180	Arg	Leu	Val	His	Asn	Arg	Arg	Pro	Val	Leu	Pro	Lys	Val	Glu	Pro	Asp	
181										160		165		170			
183	tct	aat	cta	cca	ttc	ggc	cag	cga	cgg	agt	cgc	atg	aca	acg	tgg	aat	638
184	Ser	Asn	Leu	Pro	Phe	Gly	Gln	Arg	Arg	Ser	Arg	Met	Thr	Thr	Trp	Asn	
185										175		180		185			
187	ctt	aga	cca	cgc	ccg	acg	ggg	tat	ccg	tca	aat	ggg	act	ttg	gca	gtt	686
188	Leu	Arg	Pro	Arg	Arg	Thr	Gly	Tyr	Pro	Ser	Asn	Gly	Thr	Leu	Ala	Val	
189										190		195		200			
191	acg	gaa	ctc	ctg	atc	tcg	att	tat	aga	tca	aac	ttc	tac	acc	ttg	aag	734
192	Thr	Glu	Leu	Leu	Ile	Ser	Ile	Tyr	Arg	Ser	Asn	Phe	Tyr	Thr	Leu	Lys	
193										205		210		215		220	
195	gtg	gtc	gag	gaa	ggg	aga	tgt	acg	tgc	tgc	aac	acc	cat	aag	gag	caa	782
196	Val	Val	Glu	Glu	Gly	Arg	Cys	Thr	Cys	Cys	Asn	Thr	His	Lys	Glu	Gln	
197										225		230		235			
199	gct	ttg	cta	ctc	cta	tcc	ggg	tac	ctc	cag	cta	tat	cgt	gca	ctg	cac	830
200	Ala	Leu	Leu	Leu	Leu	Ser	Gly	Tyr	Leu	Gln	Leu	Tyr	Arg	Ala	Leu	His	
201										240		245		250			
203	tca	gtt	gga	agg	tct	gta	ttc	gta	gaa	tac	tgc	aaa	acc	agg	ata	tgc	878
204	Ser	Val	Gly	Arg	Ser	Val	Phe	Val	Glu	Tyr	Cys	Lys	Thr	Arg	Ile	Cys	

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205	255	260	265
207	gtc gag gca cgc ctc acc gga cta cgt ccg agg gtg acc cta acg ggc	926	
208	Val Glu Ala Arg Leu Thr Gly Leu Arg Pro Arg Val Thr Leu Thr Gly		
209	270	275	280
211	tgc tgaacttaggt tcagccagcg cttcctgtga gtatgtcatt ccgggtcctt	979	
212	Cys		
213	285		
215	cggggcccccgg gccagttcg actgggttag gtttgcccta ctagagtact tgcgacgccc	1039	
217	aaggcctcc gttcaaaaaga acgcgcaga cctagcagag aaatgcgagg gcatgactct	1099	
219	tcgagtcaaa aaaaaaaaaa aaaaaaaaaa tcgag	1134	
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223	<211> LENGTH: 285		
224	<212> TYPE: PRT		
225	<213> ORGANISM: Babesia canis		
227	<400> SEQUENCE: 4		
228	Met Glu Ser Thr Ser Thr Thr Asn Phe Val Ala Glu Asn Arg Pro		
229	1 5 10 15		
231	Thr Phe Gly Glu Thr Phe Asp Val Met Arg Glu Ala Leu Leu Arg Val		
232	20 25 30		
234	Lys Ser Ser Glu Arg Leu Ala Met Leu Arg Ala Leu Ala Gly Met Cys		
235	35 40 45		
237	Gly His Arg Val Leu Pro Gly Thr Gly Ala Ser Ala Ile Ala Ala Thr		
238	50 55 60		
240	Val Thr Pro Lys Gly Ala Ser Met Lys Leu Lys Pro Pro Arg Pro Gln		
241	65 70 75 80		
243	Ser Thr Lys Ser Pro Glu Leu Arg Glu Leu Ser Arg Lys Ile Arg Glu		
244	85 90 95		
246	Met Asn Lys Thr Ile Ser Gln Glu Ser Ala Arg Val Asn His Arg Leu		
247	100 105 110		
249	Pro Glu Gly His Pro Leu Leu Glu Lys Arg Ala Glu Tyr Phe Val Thr		
250	115 120 125		
252	Leu Asp Leu Leu Arg Ala Lys Glu Ser Ile Asp Ser Ser Lys Lys Ala		
253	130 135 140		
255	Leu Arg Arg Tyr Arg Ala Ser Met Arg Asn Thr Asn Arg Leu Val His		
256	145 150 155 160		
258	Asn Arg Arg Pro Val Leu Pro Lys Val Glu Pro Asp Ser Asn Leu Pro		
259	165 170 175		
261	Phe Gly Gln Arg Arg Ser Arg Met Thr Thr Trp Asn Leu Arg Pro Arg		
262	180 185 190		
264	Arg Thr Gly Tyr Pro Ser Asn Gly Thr Leu Ala Val Thr Glu Leu Leu		
265	195 200 205		
267	Ile Ser Ile Tyr Arg Ser Asn Phe Tyr Thr Leu Lys Val Val Glu Glu		
268	210 215 220		
270	Gly Arg Cys Thr Cys Cys Asn Thr His Lys Glu Gln Ala Leu Leu Leu		
271	225 230 235 240		
273	Leu Ser Gly Tyr Leu Gln Leu Tyr Arg Ala Leu His Ser Val Gly Arg		
274	245 250 255		
276	Ser Val Phe Val Glu Tyr Cys Lys Thr Arg Ile Cys Val Glu Ala Arg		
277	260 265 270		

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279 Leu Thr Gly Leu Arg Pro Arg Val Thr Leu Thr Gly Cys
280 275 280 285
284 <210> SEQ ID NO: 5
285 <211> LENGTH: 90
286 <212> TYPE: DNA
287 <213> ORGANISM: Babesia canis
289 <400> SEQUENCE: 5
290 ggatcctaat acgactcaact atagggagac caccatggag tcgacatcaa caacgaccaa 60
291 ctttggcc gagaaccgtc ccaccttgg 90
294 <210> SEQ ID NO: 6
295 <211> LENGTH: 24
296 <212> TYPE: DNA
297 <213> ORGANISM: Babesia canis
299 <400> SEQUENCE: 6
300 gacgtttgat gtgatggagg aagc 24
303 <210> SEQ ID NO: 7
304 <211> LENGTH: 21
305 <212> TYPE: DNA
306 <213> ORGANISM: Babesia canis
308 <400> SEQUENCE: 7
309 aatgacatac tcacaggaag c 21
312 <210> SEQ ID NO: 8
313 <211> LENGTH: 20
314 <212> TYPE: DNA
315 <213> ORGANISM: Babesia canis
317 <400> SEQUENCE: 8
318 atgagtctat tgactccttg 20
321 <210> SEQ ID NO: 9
322 <211> LENGTH: 21
323 <212> TYPE: DNA
324 <213> ORGANISM: Babesia canis
326 <400> SEQUENCE: 9
327 agggagctgt cacggaagat t 21
330 <210> SEQ ID NO: 10
331 <211> LENGTH: 21
332 <212> TYPE: DNA
333 <213> ORGANISM: Babesia canis
335 <400> SEQUENCE: 10
336 atgaggaatt cgaaccgact a 21
338 <210> SEQ ID NO: 11
339 <211> LENGTH: 74
340 <212> TYPE: DNA
341 <213> ORGANISM: Babesia canis
343 <400> SEQUENCE: 11
344 gcagaatatt ttctgtcacct tagatcttt aagagccaag gagtcaatag actcatctaa 60
345 gaaggcacta cgta 74
347 <210> SEQ ID NO: 12
348 <211> LENGTH: 24
349 <212> TYPE: DNA

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/087,573B

DATE: 02/13/2006

TIME: 10:56:07

Input Set : E:\Substitute Seq Listing I- 2001.004 US.txt
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